

Optimisation of solar farm identifies major capital reduction as DFS draws closer

Frontier Energy Limited (ASX: FHE; OTCQB: FRHYF) (Frontier or the Company) is pleased to announce optimisation work has identified an approximate \$9.5 million reduction in capital cost for the 114MW solar farm (Stage One) at the Company's Bristol Spring Green Hydrogen Project (Project) in Western Australia. The Company is finalising the Stage One Definitive Feasibility Study (DFS), which is on track to be released in March 2023.

In addition, the WA Government continues to announce major decarbonisation targets, that strengthen the strategic importance of the Project given its unique location, with access to both the WA electricity grid and in close proximity (>1km) to the Dampier to Bunbury Natural Gas Pipeline (DBNGP).

HIGHLIGHTS

- **Optimisation of the 114MW Stage One solar farm has identified a ~\$9.5m reduction in capital costs due to the relocation of the Point of Connection (POC) to the Landwehr Terminal (Landwehr)**
 - *The Pre-Feasibility Study (PFS) (ASX Announcement 4 August 2022) estimated the total capital cost of the 114MW solar facility to be \$166m*
- **The connection to the electricity grid via Landwehr is a major differentiator for the Project (compared to remote green hydrogen projects), as it allows for un-used excess solar energy to be sold whilst using the grid to act as an effective battery to power the electrolyser (hydrogen production) during off peak solar periods**
 - *Landwehr is a substation connected to 330kV transmission lines, the largest of their kind on the Western Australia electricity grid*
- **The Western Australian Government continues to set major decarbonisation targets that strengthen the strategic importance of the Project given its unique location to major infrastructure. Recent announcements include:**
 - *Government target's 1% of electricity generation from green hydrogen;*
 - *Intention to legislate the State's target for net zero carbon emission by 2050; and*
 - *Whole of Government 2030 gas emissions reduction target of 80% (below 2020 levels) for all Government agencies*
- **Stage One Definitive Feasibility Study on track to be released during March 2023**

Managing Director, Sam Lee Mohan commented: "With costs continuing to rise across all industries due to global inflation and supply chain pressures, to have such a significant capital reduction identified is pleasing. This should ensure we do not see a cost blow out for the total 114MW solar farm (PFS estimate \$166m), when the DFS is completed in March 2023.

In addition, the Western Australian Government has continued to accelerate its efforts for decarbonising. Recent moves include planned legislation for net zero by 2050, 2030 gas emissions reduction target of 80% (compared to 2020) for all Government agencies, and

potentially most important for our Project, the Government is targeting 1% of the State's electricity generation to be powered by green hydrogen. These policy positions are progressive for the industry as a whole and we will continue working with Government to ensure that timing for implementation does not slip.

These targets and commitments continue to enhance the Project's strategic importance, given that it is the only major renewable energy project (scalable to +1GW) that also connects to the unconstrained 330kV terminal and lines while being adjacent to the Dampier to Bunbury Gas Pipeline.

Capital cost reduction following planned relocation of connection to the Landwehr Power Terminal

As part of the DFS for the Stage One Green Hydrogen strategy, the Company engaged Incite Energy ("Incite"), an Australian engineering consultancy, to provide an optimised concept design for the transmission line route and substation. Incite previously completed the Front-End Engineering Design (FEED) for the 114MW Project.

The new design relocates the point of connection within 1 km of the Landwehr Terminal (compared to the original design that was at the same location as the solar farm and required 5km of power lines), reducing the capital cost by approximately 50% or \$9.5m compared to the PFS estimate of \$19.1m.

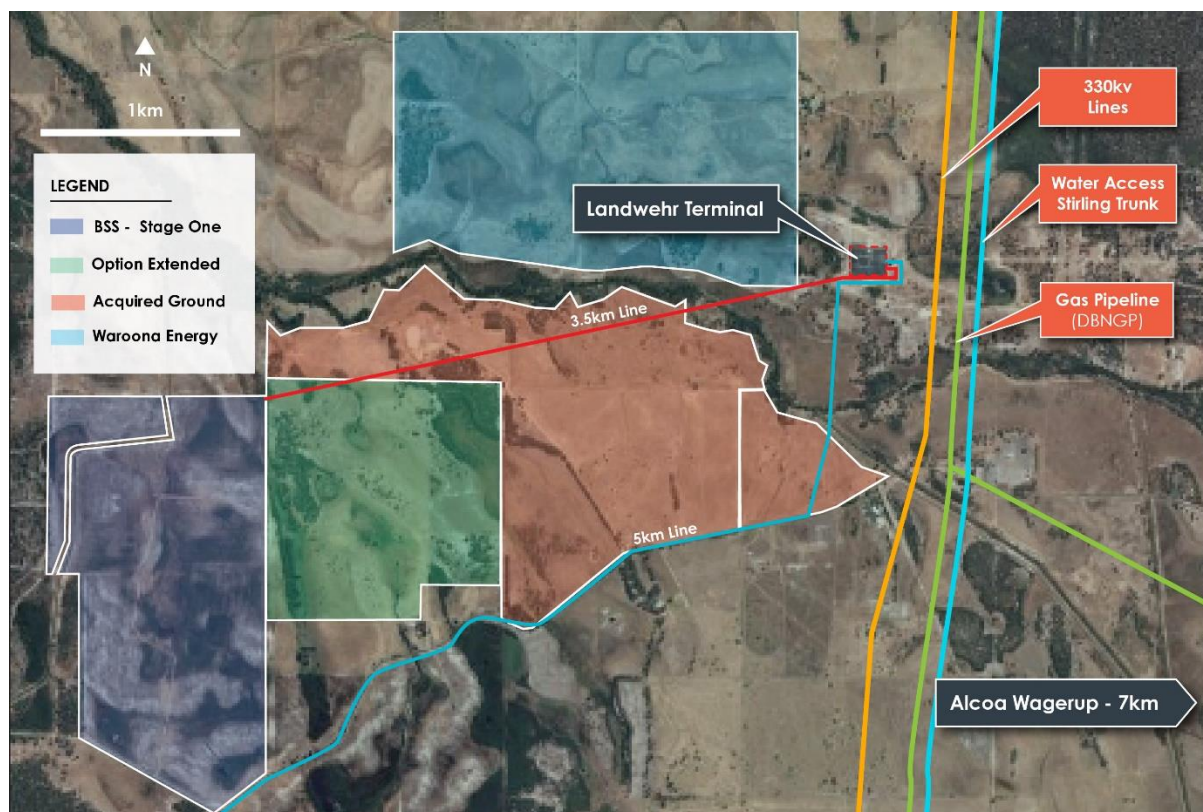


Image 1: Company landholding around the Landwehr Terminal

A review of all capital estimates for the Project, (PFS estimate \$166m) as well as the 36MW electrolyser are being finalised and will be incorporated in the DFS to be released in March 2023.

Landwehr Terminal a major differentiator for BSS

One of the major differentiators of the Project compared to other green hydrogen development projects (in remote locations) is the connection to the Landwehr Terminal, which connects to the WA electricity grid (the South West Interconnected System (SWIS)).

Frontier secured one of only two remaining connections at Landwehr, with the other being secured by Waroona Energy Pty Ltd, which has entered into a collaboration agreement with the Company (ASX announcement – 6th October 2022).



Image 2: Landwehr Terminal – 33/330kV

Landwehr is connected to 330kV transmission lines, the largest of their kind in WA, which connects Perth and Collie. Collie has historically been the major source of energy generation for the SWIS.

The connection to Landwehr allows for periods of unused daytime power production to be sold into the balancing market¹ or to a consumer via a Power Purchase Agreement.

The grid connection enables the project to use the grid as a virtual battery to ensure a stable supply of electricity to the electrolyser at low energy production periods (i.e. night).

¹ <https://aemo.com.au/en/energy-systems/electricity/wholesale-electricity-market-wem/participate-in-the-market/information-for-current-participants/balancing-market-participation>

Recent changes to Western Australian Government policy and targets

During 2022, the WA Government announced plans to close State-owned coal power stations Muja and Collie by 2029 (Muja 854MW and Collie 340MW). These planned closures also saw the Government commit \$3.5 billion in spending to assist in replacing this coal power energy with new renewable energy developments. Additional commitments from the WA Government towards renewable energy since then have included:

- Targeting 1% of the State's electricity generation from green hydrogen. This has been estimated to be the equivalent of 90MW of electrolyser capacity²
- Intention to legislate net zero carbon emissions by 2050³; and
- Whole of government 2030 greenhouse gas emissions reduction target of 80 per cent below 2020 levels, for all Government agencies, including transport, health and education, as well as those generated by Government Trading Enterprises⁴.

Frontier continues to work directly with the WA Government via the Company's Lead Agency status (ASX Announcement – 23 November 2022) with regular communication with the Department of Jobs, Tourism, Science and Innovation (JTSI), which is the Lead Agency for the Project and direct facilitator between the Government and the Company.

² <https://www.innovationaus.com/wa-government-sets-modest-1-hydrogen-target/>

³ <https://www.abc.net.au/news/2023-01-24/wa-target-of-net-zero-emissions-by-2050-to-be-legislated/101886510>

⁴ <https://www.abc.net.au/news/2023-01-24/wa-target-of-net-zero-emissions-by-2050-to-be-legislated/101886510>

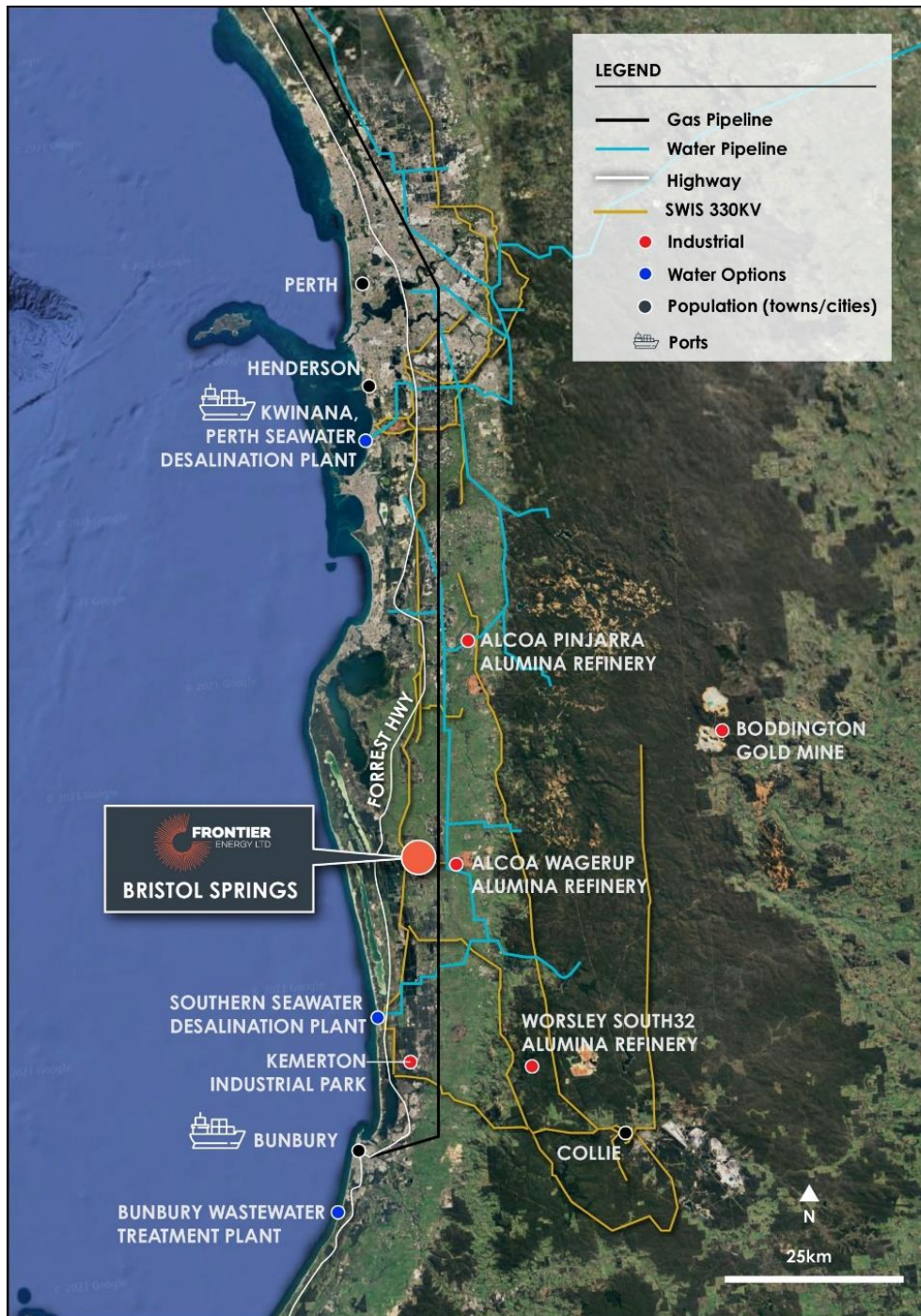


Image 3: Location of the Project and associated infrastructure

Authorised for release by Frontier Energy’s Board of Directors.

To learn more about the Company, please visit www.frontierhe.com, or contact:

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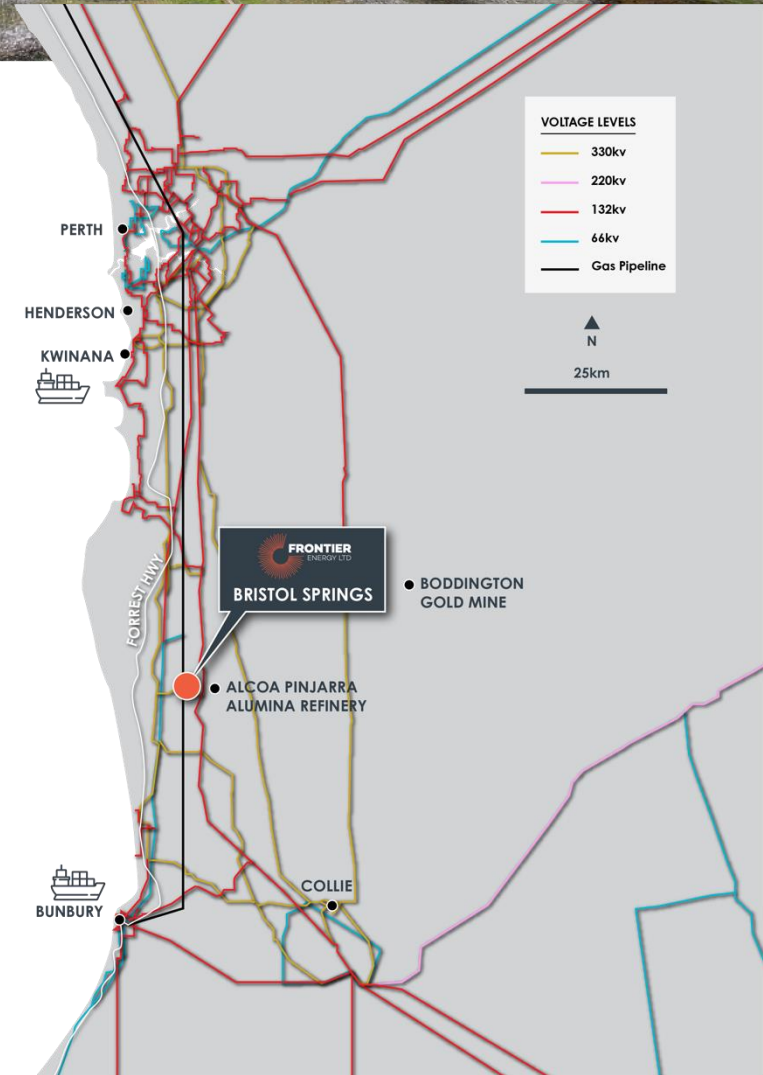
About Frontier Energy

Frontier Energy Ltd (ASX: FHE; OTCQB: FRHYF) is developing the Bristol Springs Green Hydrogen Project (the Project) located 120km from Perth in Western Australia.

The Company recently completed a Pre-Feasibility Study¹ that outlined the Project's potential to be both an earlier mover and one of the lowest cost green hydrogen assets in Australia.

The Project benefits from its unique location surrounded by major infrastructure. This reduces operating and capital costs compared to more remote hydrogen projects, whilst also being surrounded by likely early adopters into the hydrogen industry in the transition from fossil fuels.

¹ASX Announcement 4th August 2022



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For a comprehensive view of information that has been lodged on the ASX online lodgement system and the Company website, please visit asx.com.au and frontierhe.com, respectively.